



Syllabus „Capital Market Theory“

Dr. Alexander Puetz

For the winter term 2018/19, the following syllabus applies for the above named course:

Content

- Capital markets and consumption decisions
- Decision-making under certainty and uncertainty
- Portfolio theory
- Capital market models
- Valuation of forwards, futures, and options

Outline

1. Introduction: the role of capital markets for consumption decisions.
2. Investment decisions under certainty and under uncertainty: net present value, internal rate of return, utility theory, stochastic dominance.
3. State preference theory
4. Mean-variance portfolio theory: risk and return, investment opportunity set, efficient portfolios, optimal portfolio, two fund separation.
5. Capital asset pricing model (CAPM): the market portfolio, derivation of the CAPM, capital market line, security market line, properties of the CAPM, systematic and unsystematic risk, extensions of the CAPM, empirical tests of the CAPM, Roll's critique.
6. Arbitrage pricing theory (APT): factor models, arbitrage portfolios, arbitrage pricing line.

7. Forwards and futures contracts: pricing of forward contracts, comparing futures and forward contracts, the role of futures exchanges, organization of futures contracts, futures pricing and the relation to forward prices.
8. Swap contracts: uses of swaps, terminology and valuation of swaps, commodity swaps, currency swaps, interest rate swaps.
9. Options: option characteristics and terminology, determinants of option prices, put-call-parity, distribution-free option price limits under no-arbitrage considerations, early exercise of American options, binomial option pricing model, Black-Scholes option pricing model.
10. Efficient capital markets: theory and empirical evidence of efficient capital markets, value of information, incorporation of information into prices.

Previous knowledge expected

As a prerequisite for the course, students must have a basic knowledge of finance from their Bachelor studies. They need to be familiar with elementary mathematics, i.e. arithmetic, solving linear equations, differentiating and integrating elementary functions, the log-function, and the exponential-function. They are expected to have a working knowledge of statistics, i.e. expectations, standard deviation, variance and covariance.

Objective (expected results of study and acquired competences)

The aim of the course “Capital Market Theory” is to allow students to develop the conceptual foundations and analytical skills for a deeper understanding of financial asset pricing models.

During the course, students will

1. become familiar with the fundamental concepts of capital market theory.
2. analyze capital market participant’s decisions.
3. develop and discuss capital market models.
4. value securities and derivatives.
5. enhance their understanding of the concepts and skills acquired in the lecture by solving problem sets.

Teaching and learning method (delivery of skills) and workload for students

The course consists of a lecture and integrated exercise sessions.

The total workload of the course consists of 180 hours, of which 60 hours are class and 120 hours study time.

Assessment

The course is part of the specialization module "Financial Theory". The final examination for this module consists of a written 120 minutes exam (60 minutes for the course "Capital Market Theory" and 60 minutes for the course "Corporate Finance Theory").

The final grade is determined through the points which the student obtains in the final exam to the specialization module “Financial Theory”. Within this exam, 60 points out of 120 possible points are determined by questions regarding this course (“Capital Market Theory”).

Recommended Reading

The main textbook for this course is:

- Copeland, Weston, Shastri: Financial Theory and Corporate Policy

In addition, students might profit from studying the following textbooks:

- Bodie, Kane, Marcus: Investments
- Elton, et al.: Modern Portfolio Theory and Investment Analysis
- Hull: Options, Futures, and Other Derivatives

Materials:

The course materials consist of slides, which are made available to the students via ILIAS before class, the slides with hand-written remarks which are made available to the students after class, the assignments, and solution sketches.